UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,643	07/15/2005	Hironari Akashi	21900-00052-US1	2851

30678 7590 12/24/2008

CONNOLLY BOVE LODGE & HUTZ LLP
1875 EYE STREET, N.W.
SUITE 1100
WASHINGTON, DC 20006

EXAMINER	
COMLEY, ALEXANDER BRYANT	
ART UNIT	PAPER NUMBER
3746	
MAIL DATE	DELIVERY MODE
12/24/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/518,643	AKASHI ET AL.	
	Examiner	Art Unit	
	ALEXANDER B. COMLEY	3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 October 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11 and 13-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11 and 13-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status of the Claims

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 9th, 2008 has been entered. Accordingly, Claims 1-11 and 13-17 are now pending in the instant application. Dependent Claim 12 remains cancelled. The Examiner has carefully considered each of Applicant's amendments and arguments, and they will be addressed below.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 1-4 & 10-11** are rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent No. 4,576,555 to Ashenfelter directed to an Oil Dispersing Device.

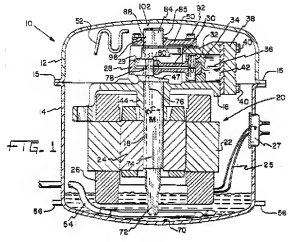


FIG. 1

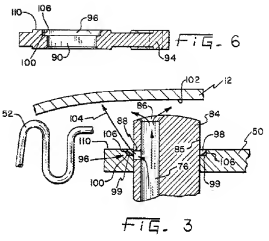


FIG. 6

FIG. 3

Regarding **Claim 1**, and in reference to Figure 1 shown immediately above, Ashenfelter (4,576,555) discloses:

(1) A hermetic compressor (Fig. 1) having a sealed housing (10) storing therein lubricating oil and receiving therein a motor element (20) and a compression element (32, 34, 36) driven by said motor element (20), said compression element (32, 34, 36) comprising a shaft (18) having an eccentric shaft portion (29), and an auxiliary shaft portion (84) and a main shaft portion (M) coaxially provided on upper and lower sides of said eccentric shaft portion (29) so as to sandwich it therebetween, a cylinder block (36) provided with a compression chamber of a substantially cylindrical shape, a main bearing (44) fixed to or formed integral with said cylinder block (36) so as to be substantially perpendicular to an axis of said compression chamber and supporting an upper half portion of said main shaft portion (M) of said shaft (18), an auxiliary bearing (50) fixed to or formed integral with said cylinder block (36) and supporting said

auxiliary shaft portion (84), a piston (34) that performs reciprocating motion in said compression chamber, and connecting means (30) for coupling said piston (34) and said eccentric shaft (29) together, wherein said shaft (18) is provided with an oil feed mechanism (74) having a lower end communicating with said lubricating oil and an upper end penetratingly open to an upper end portion of said auxiliary shaft portion (84), and said auxiliary bearing (50) is provided with an oil fence (106) for receiving the lubricating oil spouting out from the upper end portion of said oil feed mechanism (74) and an oil feed passage (80) for conducting the lubricating oil to a sliding surface of said piston (34), said oil fence (106) including a vertical wall which intersects with an extension of the direction of radially scattering of the lubricating oil due to a centrifugal force from said oil feed mechanism (74), the shape of said oil fence (106) and the position of said oil fence (106) with respect to said oil feed mechanism (74) being determined so that said radially scattering oil directly collide with said vertical wall, and then the oil is collected.

As seen in Figure 1 above, Ashenfelter discloses a hermetic compressor comprised of a sealed housing, crankshaft, motor, piston, and bearings. In particular, Ashenfelter discloses "Referring now to the drawings and particularly to FIG. 1 a compressor is shown including a shell or housing 10 with an upper housing portion 12 and a lower housing portion 14. The upper and lower housing portions are sealingly secured together at seam 15 such as by welding or brazing. Mounted within the

compressor housing 10 is a crankcase 16 having a crankshaft 18 rotatably received therein. A motor 20 comprising a stator 22 and a rotor 24 secured to crankshaft 18 provides the driving force for rotating crankshaft 18." (Column 5, Lines 10-19) Furthermore, Ashenfelter discloses the use of oil feed mechanism by stating "Disposed in lower portion 14 of the housing 10, along with refrigerant oil cooler tube 54, is an oil pump 72 comprising a hollow tube connected to the bottom end portion of crankshaft 18. Hollow tube oil pumps are conventional and well known in the prior art. In general tube 72 is press fit into a bore 74 of crankshaft 18. Oil pump 72 extends into oil sump 70 containing oil as illustrated. Oil pump tube 72 pumps oil upwardly from sump 70 as the crankshaft rotates and pumps the oil upwardly into axial bore 74 in crankshaft 18. Crankshaft 18 also includes oil passage 76 which extends upwardly from bore 74 and which traverses the entire length of upper portion 84 of crankshaft 18." (Column 5, Lines 56-69) Most importantly, however, is Ashefelter's use of an auxiliary bearing provided with an oil fence 106 for receiving the oil spouting from the upper end of the crankshaft. With particular reference to Figure 3 shown above, Ashenfelter states "Bearing 50 has a bearing aperture 90 in which upper portion 84 of crankshaft 18 is journalled. Bearing 50 is also provided with a counterbore 96 with opening 90. Counterbore 96 has a larger diameter than upper crankshaft portion 84 whereby wall 106 of counterbore 96 forms an annulus 98 together with outer cylindrical surface 85 of upper portion 84 of crankshaft 18 as best illustrated in FIG. 3. In operation, as illustrated in FIG. 3, oil will travel upwardly through oil passage 76 in upper portion 84 of crankshaft 18. A portion of the oil will be slung outwardly through radial oil passage 88 into annulus 98. Oil will collect

in corner 100 of annulus 98 and will pool therein as indicated by shaded portion 99. Additional oil passing outward of passage 88 will be deflected upwardly from the surface of oil trapped in corner 100 and will then pass upwardly over shock loop 52 directly onto wall 102 of upper housing 12 as indicated by arrow 104." (Column 6, Line 53—Column 7, Line 3) The annular wall 106 is clearly shown formed as a portion of the auxiliary bearing, and is disposed so as that oil directly collides with it. Finally, it can be seen in Figure 1 that an oil feed passage 80 is formed in the compressor so as to lubricate the sliding portions of the piston and cylinder. In particular, Ashenfelter states "Crankshaft 18 includes radial oil passage 78 located in eccentric 29 whereby oil in oil passage 76 will pass radially upwardly through radial oil passage 78 to lubricate closed loop end 28 of crankshaft 18. Connecting rod 30 also contains an oil passage 80 through which oil will travel from closed loop end 28 to lubricate wrist pin 32." (Column 6, Lines 1-7)

4. In regards to dependent **Claims 2-4, 10-11,** it can be seen best in Figures 3 and 6 that the auxiliary bearing 50 contains an annular counterbore 96 (i.e. oil pool or oil bath) with an upwardly projecting oil fence 106 provided on an upper surface of the bearing itself. Moreover, the oil pool 96 and oil fence 106 align with a horizontally disposed oil dispersion hole 88. In particular, Ashenfelter states "In operation, as illustrated in FIG. 3, oil will travel upwardly through oil passage 76 in upper portion 84 of crankshaft 18. A portion of the oil will be slung outwardly through radial oil passage 88 into annulus 98. Oil will collect in corner 100 of annulus 98 and will pool therein as

indicated by shaded portion 99. Additional oil passing outward of passage 88 will be deflected upwardly from the surface of oil trapped in corner 100 and will then pass upwardly over shock loop 52 directly onto wall 102 of upper housing 12 as indicated by arrow 104." (Column 6, Line 61 - Column 7, Line 3)

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. **Claims 1-11 ,13, 16 & 17** are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent to Ashenfelter (4,576,555) directed to an Oil Dispersing Device in view of United States Patent to Fritchman (5,118,263) directed to a Hermetic Refrigeration Compressor.

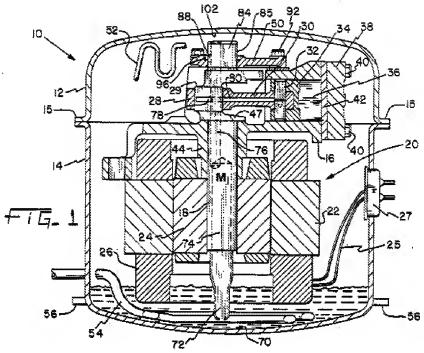


FIG. 1

Regarding **Claim 1**, and in reference to Figure 1 shown immediately above, Ashenfelter (4,576,555) discloses:

A hermetic compressor (Fig. 1) having a sealed housing (10) storing therein lubricating oil and receiving therein a motor element (20) and a compression element (32, 34, 36) driven by said motor element (20), said compression element (32, 34, 36) comprising a shaft (18) having an eccentric shaft portion (29), and an auxiliary shaft portion (84) and a main shaft portion (M) coaxially provided on upper and lower sides of said eccentric shaft portion (29) so as to sandwich it therebetween, a cylinder block (36) provided with a compression chamber of a substantially cylindrical shape, a main bearing (44) fixed to or formed integral with said cylinder block (36) so as to be substantially perpendicular to an axis of said compression chamber and supporting an upper

half portion of said main shaft portion (M) of said shaft (18), an auxiliary bearing (50) fixed to or formed integral with said cylinder block (36) and supporting said auxiliary shaft portion (84), a piston (34) that performs reciprocating motion in said compression chamber, and connecting means (30) for coupling said piston (34) and said eccentric shaft (29) together, wherein said shaft (18) is provided with an oil feed mechanism (74) having a lower end communicating with said lubricating oil and an upper end penetratingly open to an upper end portion of said auxiliary shaft portion (84); said auxiliary bearing (50) is provided with an oil fence (106) for receiving the lubricating oil spouting out from the upper end portion of said oil feed mechanism; said oil fence (106) including a vertical wall which intersects with an extension of the direction of radially scattering of the lubricating oil due to a centrifugal force from said oil feed mechanism (74), the shape of said oil fence (106) and the position of said oil fence (106) with respect to said oil feed mechanism (74) being determined so that said radially scattering oil directly collide with said vertical wall, and then the oil is collected.

As seen in Figure 1 above, Ashenfelter clearly discloses a hermetic compressor comprised of a sealed housing, crankshaft, motor, piston, and bearings. In particular, Ashenfelter discloses "Referring now to the drawings and particularly to FIG. 1 a compressor is shown including a shell or housing 10 with an upper housing portion 12 and a lower housing portion 14. The upper and lower housing portions are sealingly secured together at seam 15 such as by welding or brazing. Mounted within the

compressor housing 10 is a crankcase 16 having a crankshaft 18 rotatably received therein. A motor 20 comprising a stator 22 and a rotor 24 secured to crankshaft 18 provides the driving force for rotating crankshaft 18." (Column 5, Lines 10-19) Furthermore, Ashenfelter discloses the use of oil feed mechanism by stating "Disposed in lower portion 14 of the housing 10, along with refrigerant oil cooler tube 54, is an oil pump 72 comprising a hollow tube connected to the bottom end portion of crankshaft 18. Hollow tube oil pumps are conventional and well known in the prior art. In general tube 72 is press fit into a bore 74 of crankshaft 18. Oil pump 72 extends into oil sump 70 containing oil as illustrated. Oil pump tube 72 pumps oil upwardly from sump 70 as the crankshaft rotates and pumps the oil upwardly into axial bore 74 in crankshaft 18. Crankshaft 18 also includes oil passage 76 which extends upwardly from bore 74 and which traverses the entire length of upper portion 84 of crankshaft 18." (Column 5, Lines 56-69) However, although many of the basic structural features of applicant's invention are disclosed by this prior art, Ashenfelter fails to specifically disclose an oil feed passage for supplying lubricant to the piston.

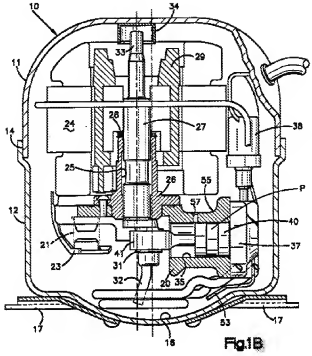


Fig.1B

However, as shown in Figure 1B immediately above, Fritchman (5,118,263) discloses a portion of the remaining elements present in Independent Claim 1. In particular, Fritchman discloses:

An oil feed passage (57) for conducting the lubricating oil to a sliding surface of said piston.

Fritchman discloses an oil feed passage provided for supplying lubricant to the piston by disclosing "In accordance with the present invention, advantage is taken of the fact that there is a certain amount of oil flowing from the upper end of the bearing boss. Accordingly, an oil supply recess 55 is located on the cylinder block 20 directly above the cylinder bore 35, and a certain amount of oil from the bearing boss will flow downward off the motor stator 24 into the oil recess 55, where it normally tends to accumulate. An oil feed hole 57 is provided in the form of a small vertical bore extending

through the cylinder block 20 from the oil supply recess 55 into the cylinder bore 35 adjacent its midpoint." (Column 6, Lines 35-46) Therefore, to one of ordinary skill in the art desiring more efficiently lubricated piston and bearing setups that coincide with oil distribution passages within a crankshaft, it would have been obvious to utilize the techniques disclosed in Fritchman in combination with the basic compressor structure of Ashenfelter in order to obtain these results. Consequently, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the compressor structure of Ashenfelter with the oil feed hole of Fritchman in order to obtain predictable results; those results being a compressor that more efficiently and reliably lubricates its vital moving parts (bearings, motors, pistons, etc).

8. Regarding **Claims 2-4, 10-11,** the Ashenfelter portion of the combination discloses all aspects of the claims (See the 102 analysis shown previously above). Regarding **Claims 5, 8, & 13**, the Fritchman portion of the combination discloses the use of an opening connected to a cylinder communicating hole 57 located above the cylinder block, as well as an upwardly projecting oil fence provided in the surface of the cylinder block. In particular, Fritchman discloses "An oil feed hole 57 is provided in the form of a small vertical bore extending through the cylinder block 20 from the oil supply recess 55 into the cylinder bore 35 adjacent its midpoint." (Column 6, Lines 42-46) In regards to **Claim 6**, the Fritchman portion of the combination shows an oil guide portion 26 designed to guide oil from the motor immediately above down to the opening portion below. In particular, Fritchman discloses "Generally, in a motor up configuration, as

described in the invention, excess oil is allowed to exit from the upper end of the bearing boss where it lubricates the vertical thrust bearing as well as cooling the motor before draining back into the reservoir." (Column 1, Lines 53-58). Regarding **Claim 7**, a similarly structured piston pin is disclosed in the Fritchman portion of the combination. In particular, Fritchman discloses "As shown at FIGS. 2 and 3, it can be seen that the oil groove 59 and the oil feed hole 57 are so positioned that at bottom dead center of the piston, as shown in FIG. 3, the head land 64, depending on the length of the piston stroke, may partly, but never completely, block the oil hole 57, so that substantially all of the area of the head land 64 is available to provide a sealing fit with the cylinder bore 35 as the piston begins it compression stroke." (Column 6, Lines 59-69) In regards to **Claim 9**, the Fritchman portion of the combination also discloses the use of an annular oil feed groove in the piston by disclosing, "A supply passage extends downward from said recess and opens into the cylinder bore near its midpoint. The piston has an elongated shallow groove on the interior between head and skirt lands which is connected to the passage during a major portion of the piston stroke to receive oil from the recess." (Abstract)

9. Regarding Independent **Claim 16**, and as similarly described in the analysis of Claim 1, Ashenfelter discloses:

> A hermetic compressor (Fig. 1) having a sealed housing (21) storing therein lubricating oil and receiving therein a motor element (22) and a compression element (31) driven by said motor element (22), said compression element (23)

comprising a shaft (26) having an eccentric shaft portion (29), and an auxiliary shaft portion (28) and a main shaft portion (27) coaxially provided on upper and lower sides of said eccentric shaft portion (29) so as to sandwich it therebetween, a cylinder block (32) provided with a compression chamber of a substantially cylindrical shape, a main bearing (33) fixed to or formed integral with said cylinder block so as to be substantially perpendicular to an axis of said compression chamber and supporting an upper half portion of said main shaft (27) portion of said shaft (26), an auxiliary bearing (38) fixed to or formed integral with said cylinder block and supporting said auxiliary shaft portion (28), a piston (31) that performs reciprocating motion in said compression chamber, and connecting means (30) for coupling said piston (31) and said eccentric shaft (29) together, wherein said shaft is provided with an oil feed mechanism (74) having a lower end communicating with said lubricating oil and an upper end penetratingly open to an upper end portion of said auxiliary shaft portion, said oil fence (106) including a vertical wall which intersects with an extension of the direction of radially scattering of the lubricating oil due to a centrifugal force from said oil feed mechanism (74), the shape of said oil fence (106) and the position of said oil fence (106) with respect to said oil feed mechanism (74) being determined so that said radially scattering oil directly collide with said vertical wall, and then the oil is collected.

As described in the analysis for Independent Claim 1 shown previously above, Ashenfelter describes the majority of Applicant's claimed elements, with the exception of

an oil fence provided on the cylinder block.

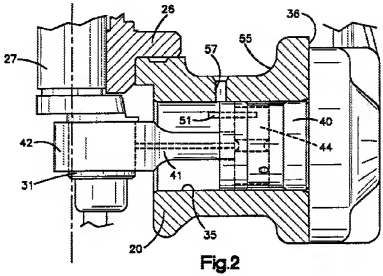


Fig.2

However, in contrast to the analysis seen for Claim 1, and as can be seen in Figure 2 shown immediately above, the Fritchman portion of the combination teaches the remaining elements present in Independent Claim 16. In particular, Fritchman discloses:

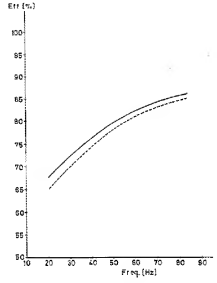
> Said cylinder block is provided with an oil fence (55) for receiving the lubricating oil spouting out from the upper end portion of said oil feed mechanism and an oil feed passage (57) for conducting the lubricating oil to a sliding surface of said piston (40);

Please refer to the analysis described in Claim 1 for a detailed analysis of the majority of the rejections made for Clam 16, as the only difference between Claim 1 and 16 is the placement of applicant's oil fence structure. Fritchman specifically discloses the use of a vertically extending oil fence placed on the cylinder block of the compressor by stating "In accordance with the present invention, advantage is taken of the fact that

there is a certain amount of oil flowing from the upper end of the bearing boss. Accordingly, an oil supply recess 55 is located on the cylinder block 20 directly above the cylinder bore 35, and a certain amount of oil from the bearing boss will flow downward off the motor stator 24 into the oil recess 55, where it normally tends to accumulate. An oil feed hole 57 is provided in the form of a small vertical bore extending through the cylinder block 20 from the oil supply recess 55 into the cylinder bore 35 adjacent its midpoint." (Column 6, Lines 35-46) Furthermore, the Ashenfelter portion of the combination specifically discloses the use of centrifugal force to force oil upwardly through the crankshaft and outwardly from the inner vertical oil passage and directly into a vertical wall 106. However, Applicant's placement of the oil fence in this claim (on the cylinder block instead of the auxiliary bearing) is an arbitrary choice that depends only upon the specific location in which the user wishes to collect lubricating oil. One of ordinary skill in the art of hermetic compressors would be able to utilize the vertical wall 106 of Ashenfelter in a variety of locations within a lubricated compressor in order to efficiently lubricate a specific portion of the device. Therefore, to one of ordinary skill in the art desiring a more efficiently lubricated hermetic, it would have been obvious to utilize the techniques disclosed in Fritchman in combination with the compressor of Ashenfelter in order to obtain this result. Consequently, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the location of the oil fence seen in Ashenfelter with the location seen in Fritchman in order to obtain predictable results; those results being a hermetic compressor that more efficiently lubricates its vital moving parts (i.e. the auxiliary bearing in Claim 1 or the piston in

Claim 16)

FIG.13



10. **Claims 14 & 15** are rejected under 35 U.S.C. 103(a) as being unpatentable over the Ashenfelter-Fritchman combination as applied to Claims 1-11 13, and 16-17 above, and further in view of United States Patent to Hayashi (5,506,486) directed to a Control Apparatus for Compressor with Induction Motor. In reference to Figure 13 shown immediately above, and regarding **Claims 14 & 15**, the Hayashi portion of the combination specifically shows the use of a plurality of operating frequencies for a hermetic compressor driven by an induction motor. In particular, Figure 13 contains a solid line depicting the relationship between a range of operating frequencies and corresponding operating efficiency of the compressor, which clearly includes at least an operating frequency of less than the power source frequency and at least an operating frequency of less than 30 Hz. Therefore, to one of ordinary skill in the art desiring a compressor that reduces the overall power consumption of the motor, it would have been obvious to utilize the control techniques disclosed in Hayashi in combination with

the Ashenfelter-Fritchman combination in order to obtain this result. Consequently, it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the compressor of the Ashenfelter-Fritchman combination with the inverter of Hayashi in order to reduce electric power consumption.

Response to Arguments

11. Applicant's arguments with respect to claims 1-11 and 13-17 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEXANDER B. COMLEY whose telephone number is (571)270-3772. The examiner can normally be reached on M-F 7:30am - 5:00am EST (Alternate Fridays Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon C. Kramer can be reached on (571)-272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Alexander B Comley/
Examiner, Art Unit 3746

/Devon C Kramer/
Supervisory Patent Examiner, Art Unit 3746

ABC